Atty Docket No.: 250874US2XDIV

Inventors: Akiko MIYAHARA, et al.

Preliminary Amendment

**IN THE CLAIMS** 

Please amend the claims as follows:

Claim 1-14 (canceled)

Claim 15 (original): In an induction heating coil for an induction heating type fixing

device, leads of a plurality of coils are laid inside of said plurality of coils.

Claim 16 (original): The induction heating coil as claimed in claim 15, wherein said

coils are wound round a bobbin formed of a nonconductive material, said leads being laid

inside of said bobbin.

Claim 17 (original): The induction heating coil as claimed in claim 16, wherein holes

are formed in said bobbin for leading said leads into said bobbin.

Claim 18 (original): The induction heating coil as claimed in claim 15, wherein said

coils are wound round a bobbin formed of a nonconductive material, and

grooves are formed in an outer periphery of said bobbin for laying said leads inside of

said coils.

Claim 19 (original): In an induction heating coil for an induction heating type fixing

device that includes a heat roller, a plurality of coils are wound round said heat roller, and

at least one of said plurality of coils is connected to another coil over an immediately

adjoining coil by a connection lead.

Atty Docket No.: 250874US2XDIV

Inventors: Akiko MIYAHARA, et al.

Preliminary Amendment

Claim 20 (original): The induction heating coil as claimed in claim 19, wherein said

connection lead includes removable connecting means for connecting said connection lead to

another connection lead.

Claim 21 (original): In an induction heating coil for an induction heating fixing

device that includes a heat roller, a plurality of coils are wound round said heat roller, and

said plurality of coils each have leads at least one of which comprises a flat lead.

Claim 22 (original): The induction heating coil as claimed in claim 21, wherein said

flat lead connects a coil associated therewith to another coil or a coil drive circuit over an

immediately adjoining coil.

Claim 23 (original): The induction heating coil as claimed in claim 22, wherein said

flat lead comprises a thin, flat sheet formed of a conductive material.

Claim 24 (original): The induction heading coil as claimed in claim 22, wherein said

flat lead comprises a litz wire.

Claim 25 (original): The induction heating coil as claimed in claim 24, wherein said

lead has a sectional area equal to or greater than a cross-sectional area of the litz wire.

Claim 26 (original): The induction heating coil as claimed in claim 25, wherein said

flat lead has a thickness equal to or smaller than a diameter of the litz wire.

Preliminary Amendment

Claim 27 (original): The induction heating coil as claimed in claim 26, wherein said coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of said heat roller which a recording medium having a preselected size smaller than a maximum available size passes, and

said auxiliary coil is located at a position substantially corresponding to an auxiliary range of said heat roller other than said main range.

Claim 28 (original): The induction heating coil as claimed in claim 27, wherein said main coil is positioned at a center, and

said auxiliary coil comprises two auxiliary coils respectively located at opposite sides of said main coil.

Claim 29 (original): The induction heating coil as claimed in claim 27, wherein said main coil extends from one end of said heat roller to an intermediate portion of said heat roller, and

said auxiliary coil extends from the other end of said main coil to the other end of said heat roller.

Claim 30 (original): The induction heating coil as claimed in claim 27, wherein opposite ends of said main coil are coincident with or positioned slightly outward of opposite ends of said main range of said heat roller.

Preliminary Amendment

Claim 31 (original): The induction heading coil as claimed in claim 21, wherein said

flat lead comprises a litz wire.

Claim 32 (original): The induction heating coil as claimed in claim 31, wherein said

lead has a sectional area equal to or greater than a cross-sectional area of the litz wire.

Claim 33 (original): The induction heating coil as claimed in claim 32, wherein said

flat lead has a thickness equal to or smaller than a diameter of the litz wire.

Claim 34 (original): The induction heating coil as claimed in claim 33, wherein said

coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of

said heat roller which a recording medium having a preselected size smaller than a maximum

available size passes, and

said auxiliary coil is located at a position substantially corresponding to an auxiliary

range of said heat roller other than said main range.

Claim 35 (original): The induction heating coil as claimed in claim 34, wherein said

main coil is positioned at a center, and

said auxiliary coil comprises two auxiliary coils respectively located at opposite sides

of said main coil.

Preliminary Amendment

Claim 36 (original): The induction heating coil as claimed in claim 34, wherein said main coil extends from one end of said heat roller to an intermediate portion of said heat roller, and

said auxiliary coil extends from the other end of said main coil to the other end of said heat roller.

Claim 37 (original): The induction heating coil as claimed in claim 34, wherein opposite ends of said main coil are coincident with or positioned slightly outside of opposite ends of said main range of said heat roller.

Claim 38 (original): The induction heating coil as claimed in claim 21, wherein said lead has a sectional area equal to or greater than a cross-sectional area of the litz wire.

Claim 39 (original): The induction heating coil as claimed in claim 38, wherein said lead has a sectional area equal to or greater than a cross-sectional area of the litz wire.

Claim 40 (original): The induction heating coil as claimed in claim 39, wherein said flat lead has a thickness equal to or smaller than a diameter of the litz wire.

Claim 41 (original): The induction heating coil as claimed in claim 40, wherein said coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of said heat roller which a recording medium having a preselected size smaller than a maximum available size passes, and

Preliminary Amendment

said auxiliary coil is located at a position substantially corresponding to an auxiliary

range of said heat roller other than said main range.

Claim 42 (original): The induction heating coil as claimed in claim 41, wherein said

main coil is positioned at a center, and

said auxiliary coil comprises two auxiliary coils respectively located at opposite sides

of said main coil.

Claim 43 (original): The induction heating coil as claimed in claim 41, wherein said

main coil extends from one end of said heat roller to an intermediate portion of said heat

roller, and

said auxiliary coil extends from the other end of said main coil to the other end of said

heat roller.

Claim 44 (original): The induction heating coil as claimed in claim 41, wherein

opposite ends of said main coil are coincident with or positioned slightly outward of opposite

ends of said main range of said heat roller.

Claim 45 (original): The induction heating coil as claimed in claim 21, wherein said

lead has a sectional area equal to or greater than a cross-sectional area of the litz wire.

Claim 46 (original): The induction heating coil as claimed in claim 45, wherein said

flat lead has a thickness equal to or smaller than a diameter of the litz wire.

Preliminary Amendment

Claim 47 (original): The induction heating coil as claimed in claim 46, wherein said coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of said heat roller which a recording medium having a preselected size smaller than a maximum available size passes, and

said auxiliary coil is located at a position substantially corresponding to an auxiliary range of said heat roller other than said main range.

Claim 48 (original): The induction heating coil as claimed in claim 47, wherein said main coil is positioned at a center, and

said auxiliary coil comprises two auxiliary coils respectively located at opposite sides of said main coil.

Claim 49 (original): The induction heating coil as claimed in claim 47, wherein said main coil extends from one end of said heat roller to an intermediate portion of said heat roller, and

said auxiliary coil extends from the other end of said main coil to the other end of said heat roller.

Claim 50 (original): The induction heating coil as claimed in claim 47, wherein opposite ends of said main coil are coincident with or positioned slightly outward of opposite ends of said main range of said heat roller.

Preliminary Amendment

Claim 51 (original): The induction heating coil as claimed in claim 21, wherein said

flat lead has a thickness equal to or smaller than a diameter of the litz wire.

Claim 52 (original): The induction heating coil as claimed in claim 51, wherein said

coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of

said heat roller which a recording medium having a preselected size smaller than a maximum

available size passes, and

said auxiliary coil is located at a position substantially corresponding to an auxiliary

range of said heat roller other than said main range.

Claim 53 (original): The induction heating coil as claimed in claim 52, wherein said

main coil is positioned at a center, and

said auxiliary coil comprises two auxiliary coils respectively located at opposite sides

of said main coil.

Claim 54 (original): The induction heating coil as claimed in claim 52, wherein said

main coil extends from one end of said heat roller to an intermediate portion of said heat

roller, and

said auxiliary coil extends from the other end of said main coil to the other end of said

heat roller.

Claim 55 (original): The induction heating coil as claimed in claim 52, wherein opposite ends of said main coil are coincident with or positioned slightly outward of opposite ends of said main range of said heat roller.

Claim 56 (original): The induction heating coil as claimed in claim 21, wherein said coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of said heat roller which a recording medium having a preselected size smaller than a maximum available size passes, and

said auxiliary coil is located at a position substantially corresponding to an auxiliary range of said heat roller other than said main range.

Claim 57 (original): The induction heating coil as claimed in claim 56, wherein said main coil is positioned at a center, and

said auxiliary coil comprises two auxiliary coils respectively located at opposite sides of said main coil.

Claim 58 (original): The induction heating coil as claimed in claim 56, wherein said main coil extends from one end of said heat roller to an intermediate portion of said heat roller, and

said auxiliary coil extends from the other end of said main coil to the other end of said heat roller.

ends of said main range of said heat roller.

Preliminary Amendment

Claim 59 (original): The induction heating coil as claimed in claim 56, wherein opposite ends of said main coil are coincident with or positioned slightly outward of opposite

Claim 60 (original): In an image forming apparatus including a fixing device that fixes a toner image on a recording medium with a heat roller and an induction heating coil, a plurality of coils are wound round said heat roller, and

said plurality of coils each have leads at least one of which comprises a flat lead.

Claim 61 (original): The apparatus as claimed in claim 60, wherein said flat lead connects a coil associated therewith to another coil or a coil drive circuit over an immediately adjoining coil.

Claim 62 (original): The apparatus as claimed in claim 60, wherein said flat lead comprises a thin, flat sheet formed of a conductive material.

Claim 63 (original): The apparatus as claimed in claim 60, wherein said flat lead comprises a litz wire.

Claim 64 (original): The apparatus as claimed in claim 60, wherein said lead has a sectional area equal to or greater than a cross-sectional area of the litz wire.

Claim 65 (original): The apparatus as claimed in claim 60, wherein said flat lead has a thickness equal to or smaller than a diameter of the litz wire.

Preliminary Amendment

Claim 66 (original): The apparatus as claimed in claim 60, wherein said coils comprise a main coil and an auxiliary coil,

said main coil is located at a position substantially corresponding to a main range of said heat roller which a recording medium having a preselected size smaller than a maximum available size passes, and

said auxiliary coil is located at a position substantially corresponding to an auxiliary range of said heat roller other than said main range.

Claim 67 (original): In an induction heating type fixing device, an induction heating coil comprises a bobbin for supporting conductors, said bobbin comprising a plurality of bobbin members removably connected to each other.

Claim 68 (original): The fixing device as claimed in claim 67, wherein said bobbin is hollow and cylindrical, and

the conductors are wound on inner peripheries of said bobbin members.

Claim 69 (original): The fixing device as claimed in claim 68, wherein the conductors are selectively wound on the inner peripheries of said bobbin members or on outer peripheries of said bobbin members.

Claim 70 (original): In an induction heating coil for an induction heating type fixing device, a bobbin for supporting conductors comprises a plurality of bobbin members removably connected to each other, and

the conductors each are wound round a particular bobbin member.

Preliminary Amendment

Claim 71 (original): The fixing device as claimed in claim 70, wherein said bobbin is

hollow and cylindrical, and

the conductors are wound on inner peripheries of said bobbin members.

Claim 72 (original): The fixing device as claimed in claim 71, wherein the

conductors are selectively wound on the inner peripheries of said bobbin members or on outer

peripheries of said bobbin members.

Claim 73 (original): In a method of producing an induction heating coil for an

induction heating type fixing device and including a bobbin for supporting conductors, said

bobbin comprises a plurality of bobbin members removably connected to each other, after a

particular conductor has been wound on each bobbin member, said plurality of bobbin

members are assembled.

Claim 74 (original): The method as claimed in claim 73, wherein said bobbin is

hollow and cylindrical, and

the conductors are wound on inner peripheries of said bobbin members.

Claim 75 (original): The method as claimed in claim 74, wherein the conductors are

selectively wound on the inner peripheries of said bobbin members or on outer peripheries of

said bobbin members.

Preliminary Amendment

Claim 76 (original): In an image forming apparatus including a fixing device for

fixing a toner image on a recording medium with a heat roller, which includes an induction

heating coil, said induction heating coil comprises a bobbin for supporting conductors, and

said bobbin comprises a plurality of bobbin members removably connected to each

other.

Claim 77 (original): The apparatus as claimed in claim 76, wherein said bobbin

members comprise a main bobbin member round which a conductor for serving as a main

coil is wound and an auxiliary bobbin member round which a conductor for serving as an

auxiliary coil is wound,

said main bobbin member is located at a position substantially corresponding to a

main range of the heat

roller which a recording medium having a preselected size smaller than a maximum

available size passes, and

said auxiliary bobbin member is located at a position substantially corresponding to

an auxiliary range of the heat roller other than said main range.

Claim 78 (original): The apparatus as claimed in claim 76, wherein said bobbin is

hollow and cylindrical, and

the conductors are wound on inner peripheries of said bobbin members.

Claim 79 (original): The apparatus as claimed in claim 76, wherein the conductors

are selectively wound on the inner peripheries of said bobbin members or on outer

peripheries of said bobbin members.